WHAT IS CLAIMED IS:

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1. A window position detection and anti-pinch system for a vehicle door assembly having a window adjustably positionable in a window frame by a reversible motor operatively connected to the window, the system comprising:

at least one sensing device disposed adjacent the window for detecting the position of the window relative to the window frame, the at least one sensing device generating an output signal representative of the detected position of the window; and

a controller responsive to the output of the at least one sensing device for comparing the output signal against predetermined values to determine whether an obstruction exists between the window and window frame.

2. The window position detection and anti-pinch system of claim 1 wherein the at least one sensing device comprises a first sensing device detecting a coding arrangement provided on the window and generating an output representative of the detected position of the indicia on the window.

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3. The window position detection and anti-pinch system of claim 2 wherein the at least one sensing device comprises a first sensing device having a sensor detecting a coding arrangement located on the window and a transmitter generating an output representative of the detected position of the indicia on the window.

4. The window position detection and anti-pinch system of claim 2 wherein the coding arrangement comprises a plurality of indicia uniformly spaced and correlated to convey the vertical position of the window in the window frame to the sensor.

5. The window position detection and anti-pinch system of claim 4 wherein the coding arrangement is etched into a surface of the window.

6. The window position detection and anti-pinch system of claim 4 wherein the coding arrangement is provided on a media applied to the window.

7. The window position detection and anti-pinch system of claim 1 wherein the at least one sensing device includes a first sensing device for detecting the position of the window relative to the window frame and a second sensing device for detecting the presence of an obstruction between the window and window frame.

8. The window position detection and anti-pinch system of claim 7 wherein the second sensing device comprises a transmitter disposed adjacent an upper rear portion of the window frame emitting an energy signal along the inner periphery of the window frame, a receiver in communication with the controller disposed adjacent a lower front portion of the window frame detecting the electromagnetic signal and a prism positioned in the path of the energy signal emitted by the transmitter and arranged to redirect the signal to the receiver.

9. The window position detection and anti-pinch system of claim 8 further comprising a shutter mechanism arranged to block the energy signal if an obstruction contacts a lower end of the shutter mechanism.

10. The window position detection and anti-pinch system of claim 1 wherein the at least one sensing device comprises a rotary member engaging a surface of the window and an encoder rotatably connected to the rotary member for detecting the position of the window relative to the window frame, wherein the encoder is rotated by the rotary member upon the movement of the window.

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11. The window position detection and anti-pinch system of claim 10 wherein the at least one sensing device comprises an encoder having a plurality of electrical contacts provided on an outer periphery of the encoder and at least one electrical contact in communication with the controller for monitoring pulses generated by the rotation of the plurality of contacts on the encoder upon the movement of the window.

12. The window position detection and anti-pinch system of claim 10 wherein the at least one sensing device comprises an encoder having a multi-poled magnet centrally disposed in the encoder and a receiver in communication with the controller comprising a Hall effect sensor disposed radially outwardly of the magnet for monitoring pulses generated by the rotation of the magnet on the encoder.

13. The window position detection and anti-pinch system of claim 10 wherein the at least one sensing device comprises an encoder having a plurality of intermittent holes positioned about the periphery of the encoder allowing an electromagnetic signal to pass through and a photointerrupter in communication with the controller positioned adjacent the encoder for monitoring pulses generated by the interruption of the electromagnetic signal by the rotation of the encoder based on the change in position of the window relative to the window frame.

14. The window position detection and anti-pinch system of claim 1 wherein the at least one sensing device comprises an infrared light sensing arrangement.

15. A method of detecting the position of a window relative to a window frame of a vehicle door assembly, the method comprising:

positioning at least one sensing device adjacent the window and generating an output signal representative of the position of the window relative to the window frame;

comparing the output signal generated by the at least one sensing device against predetermined values to determine whether an obstruction exists between the window and window frame; and

generating a control signal to stop and reverse the travel of the window upon detection of an obstruction between the window and window frame.

16. The method of claim 15 wherein generating an output signal comprises detecting a coding arrangement located on the window, wherein the

coding arrangement comprises a plurality of indicia uniformly spaced and correlated to convey the vertical position of the window relative to the window frame.

17. The method of claim 15 further comprising positioning a second sensing device to detect the presence of an obstruction between the window and window frame.

18. The method of claim 17 wherein positioning the second sensing device comprises providing a transmitter disposed adjacent an upper rear portion of the window frame, emitting an energy signal along the inner periphery of the window frame, and receiving the energy signal at a receiver disposed adjacent a lower front portion of the window frame.

19. The method of claim 15 wherein positioning the at least one sensing device further comprises providing a rotary member disposed adjacent the window and an encoder rotatably connected to the rotary member for detecting the position of the window relative to the window frame.

20. The method of claim 19 wherein providing an encoder comprises providing an encoder having a plurality of electrical contacts provided on an outer periphery of the encoder and at least one electrical contact in communication with the controller for monitoring pulses generated by the rotation of the plurality of contacts translated from a change in position of the window relative to the window frame.

21. The method of claim 19 wherein providing an encoder comprises providing an encoder having a multi-poled magnet centrally disposed in the encoder and a receiver in communication with the controller comprising a Hall effect sensor disposed radially outwardly of the magnet for monitoring pulses generated by the rotation of the magnet on the encoder translated from a change in position of the window relative to the window frame.

22. The method of claim 19 wherein providing an encoder comprises providing an encoder having a plurality of intermittent holes positioned about the periphery of the encoder allowing an electromagnetic signal to pass through and a photointerrupter in communication with the controller positioned adjacent the encoder for monitoring pulses generated by the interruption of the electromagnetic signal by the rotation of the encoder based on the change in position of the window relative to the window frame.